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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,126	11/29/2004	Hidehiko Kuroda	055652-0107	3411

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EXAMINER	
SAINT SURIN, JACQUES M	

ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/509,126	KURODA ET AL.
	Examiner	Art Unit
	Jacques M. Saint-Surin	2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/29/04, 09/28/04 and 03/23/03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/29/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Kuroda et al. (US Patent 6,460,422).

The applied reference has a common invention with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

3. Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Kuroda et al. (US Patent 6,460,422).

Regarding claim 1, Kuroda discloses a torsional vibration measuring instrument (torque measuring device of Fig. 1) comprising: a plurality of reflecting means (first and second reflectors 22 and 23, see: Figs. 1, 4, 7, 14, 17 and col. 7, lines 36-37) arranged with stipulated intervals therebetween along surface of a rotator (body 37, see: Fig. 1 and col. 7, line 34) of which torsional vibration is to be measured;

a pulse light irradiating means (irradiation device 20 for irradiating a light beam, see: col. 7, lines 30-31) for irradiating a repetitive pulse light beam to the plurality of reflecting means (22, 23);

an outgoing-transmitting means for transmitting (beam splitter 27, see: col. 7, line 59) the irradiated pulse light beam;

a plurality of transmitting-receiving means (transmitter-receiver 61 and transmitter receiver 62, see: Fig. 14) for irradiating the transmitted pulse light beam to the plurality of reflecting means (reflectors 55 and 56), and for receiving plurality of reflected pulse light beams which have been reflected by the plurality of reflecting means;

an incoming-transmitting means (optical fiber 47) for transmitting the plurality of reflected pulse light beams which have been received;

a plurality of detecting means (detectors 24 and 25 for detecting the plurality of reflected pulse light beams which have been transmitted by the incoming transmitting means;

and a signal processing means (processing device 58) for processing a plurality of pulse output signals which have been outputted from the plurality of detecting

means and for calculating torsional vibration frequency of the rotator to be measured (a filtering device 57 for removing signal components except for the detection signals with respect to the output signals of these detectors 24 and 25 and a relative processing device 58 for relatively processing the output signals of the detectors 24 and 25 to obtain the torque of the member 37, see: col. 13, lines 62-67).

Regarding claims 2-4, Kuroda discloses the light from the irradiation device 20 is divided into a reflected light and a transmitting light by a beam splitter 27 of a beam controller 21. On the side of the reflected light, lenses 29, 31, a beam splitter 33 and a condensing lens 35 are sequentially arranged on the same light path. The reflected light is irradiated to the member or body 37 to be measured via the lenses 29, 31, the beam splitter 33 and the condensing lens 35. On the other hand, on the side of the transmitted light, a mirror for reflection 28, lenses 30, 32, a beam splitter 34 and a condensing lens 36 are sequentially arranged on the same light path. The transmitted light, which is divided by the beam splitter 27, is reflected by the mirror 28 so as to be irradiated to the member 37 via the lenses 30, 32, the beam splitter 34 and the condensing lens 36. (8) In this state, the beam splitters 27, 33 and 34 may be composed of a wavelength plate. An optical system comprising of the lenses 29 and 31 is a forty times enlarged optical system and it can be substituted with a beam expander. In the same way, the lenses 30 and 32 may be substituted with the beam expander. The condensing lenses 35 and 36 may be composed of an achromatic lens, which corrects a spherical aberration or an aplanat such as an apochromatic lens or the like or an aspheric.

Regarding claim 6, Kuroda discloses the light from the irradiation device 20 is divided into a reflected light and a transmitting light by a beam splitter 27 of a beam controller 21. On the side of the reflected light, lenses 29, 31, a beam splitter 33 and a condensing lens 35 are sequentially arranged on the same light path. The reflected light is irradiated to the member or body 37 to be measured via the lenses 29, 31, the beam splitter 33 and the condensing lens 35. On the other hand, on the side of the transmitted light, a mirror for reflection 28, lenses 30, 32, a beam splitter 34 and a condensing lens 36 are sequentially arranged on the same light path. The transmitted light, which is divided by the beam splitter 27, is reflected by the mirror 28 so as to be irradiated to the member 37 via the lenses 30, 32, the beam splitter 34 and the condensing lens 36 (see: col. 7, lines 58-67 and col. 8, lines 1-4).

Regarding claims 7, 12 and 14, Kuroda discloses a signal processing means performs the signal processing in consideration of the output variations with respect to the plural pulse signals having sharp rising and lowering times and the specific waveform, and the signal processing means also performs a mathematical operation of the rotation period and the torque with a desired high accuracy, see: col. 4, lines 48-55.

Regarding claim 8, Kuroda discloses the torque measuring device has a device body which is arranged along a circumferential or axial direction of the member to be measured, see: col. 4, lines 11-13.

Regarding claim 9, Kuroda discloses transmitting-receiving means discloses transmitter-receivers 61, 62 and a, and reflectors 65 and 66 and mirror 28.

Regarding claims 10-11, Kuroda discloses the reflecting means comprises a low

reflector having a reflection coefficient of the reflected light lower than that of the surface of the member to be measured. The reflecting means comprises a reflector including a high reflection area having a reflection coefficient of the reflected light higher than that of the surface of the member to be measured and a low reflection area having a reflection coefficient of the reflected light lower than that of the high reflection area. The reflecting means may include a reflector including a reflection area reflecting the irradiated light from the irradiation means in a direction to a location of the detecting means and a diffusing reflection area reflecting diffusingly at least one portion of the irradiated light from the irradiation means in a direction other than the direction of the detecting means, see: col. 3, lines 43-57.

Regarding claim 13, Kuroda discloses Further, first detection signal 59 and the second detection signal 60 are taken into the filtering device 57 and the relative processing device 58, so that the rotation period and the torque are calculated. In other words, the filtering device 57 converts the first and the second detection signals 59 and 60 into digital values at a sampling frequency of 1 GHz. Since the frequencies of the detection signals 59 and 60, which are detected by the reflectors 65 and 66 to be signal processed, are several kHz, the filtering device 57 removes frequency components with a frequency higher than 50 kHz (see: col. 15, lines 43-55).

Regarding claim 15, Kuroda discloses a control means operatively connected to the irradiation means adapted to branch the light into a plurality of lights as beams, control a beam diameter of the respective lights and irradiate the lights on a surface of a member to be measured, see: col. 3, lines 26-29.

Regarding claims 16-17, Kuroda discloses the reflecting means includes the plural reflectors which are formed by directly forming reflection patterns on the member to be measured. Each of the reflectors is formed of a reflector member having high reflection amount having a length substantially the same as a circumferential length of the member to be measured and which is wound therearound, the reflector member being formed, at a portion thereof, with a low reflection area having less reflection light. The reflection pattern is a bar code pattern in which the low reflection area having less reflection light are formed in shape of plural lines to the reflector member having high reflection amount. The low reflection area has a shape variable along an axial direction of the member to be measured (see: col. 4, lines 15-28).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M. Saint-Surin whose telephone number is (571) 272-2206. The examiner can normally be reached on Mondays through Fridays 10:30 A.M. -7:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272 2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacques M. Saint-Surin
December 01, 2005

HEZRON WILLIAMS
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